REMARKS

These amendments and remarks are filed in response to the final Office Action mailed June 11, 2007. For the following reasons, this application should be allowed and the application passed to issue. No new matter is introduced by this amendment. The amendments to claims 1, 6, and 9, and new claims 10-12 are supported throughout the specification which clearly teaches that the negative electrode active material is mainly composed of Si and does not include a carbon layer.

Claims 1-4 and 6-12 are pending in this application. Claims 1-4 and 6-9 have been rejected. Claims 1, 6, and 9 have been amended in this response. New claims 10-12 have been added. Claim 5 was previously canceled.

Interview Summary

Applicants greatly appreciate the courtesy of Examiner Chuo in granting telephone interviews with the undersigned on August 30, 2007 and September 4, 2007. During the telephone interviews the undersigned explained that the claims were not obvious in view of the cited references and proposed amendments. The Examiner requested the amendments and arguments be presented in a written response.

Obviousness Double Patenting

Claim 9 was provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3-5 of copending Application No. 10/982,056 in view of Yamamoto et al. (U.S. Pat. Pub. No. 2003/0054249) and Fukui (JP 2002-075332).

Claim 9 was provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of copending Application No. 10/979,637 in view of Yamamoto et al. and Fukui.

These rejections are traversed, and reconsideration and withdrawal thereof respectfully requested.

Applicants submit that the present claims are not obvious in view of claims 1 and 3-5 of copending Application No. 10/982,056 in view of Yamamoto et al. and Fukui, and claims 1 and 3 of copending Application No. 10/979,637 in view of Yamamoto et al. and Fukui. However, in order to advance prosecution in this application, Applicants have filed a terminal disclaimer concurrently with the filing of this Amendment. In light of the terminal disclaimer, Applicants submit that the provisional obviousness double patenting rejections in view of claims 1 and 3-5 of copending Application No. 10/982,056 in view of Yamamoto et al. and Fukui, and claims 1 and 3 of copending Application No. 10/979,637 in view of Yamamoto et al. and Fukui. should be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-4 and 6-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto et al. in view of Fukui et al. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the present invention as claimed and the cited prior art.

The combination of Yamamoto et al. and Fukui et al. do not suggest the negative electrode active materials for a non-aqueous electrolyte rechargeable battery, as required by claims 1 and 6, and the non-aqueous electrolyte rechargeable battery according to claim 9 because the combination of Yamamoto et al. and Fukui et al. do not suggest the negative electrode active material wherein the active material is mainly composed of Si, as required by claims 1, 6, and 9.

The combination of Yamamoto et al. and Fukui et al. do not suggest the negative electrode active materials for a non-aqueous electrolyte rechargeable battery, as required by claims 10 and 11, and the non-aqueous electrolyte rechargeable battery according to claim 12 because the combination of Yamamoto et al. and Fukui et al. do not suggest the negative electrode active material wherein the negative electrode material does not include a carbon layer, as required by claims 10, 11, and 12.

Yamamoto et al. disclose an active material layer mainly composed of a carbon (graphite) layer. As disclosed in paragraph [0105] Yamamoto et al. teach that carbon anode 2b is a graphite layer with a thickness of 90 μm after compression; the second anode layer 3b is a Si film with a thickness of 1 μm; and the oxide film 5b is SiO_x ($0 < x \leq 2$), SnO_x ($0 < x \leq 2$) with a thickness of 1.6 nm. Yamamoto et al. further teach (paragraph [0091] and [0110]) that when the thickness of the second anode layer 3a is 80% or less of the thickness of the thickness of the carbon anode, an initial charge-discharge efficiency is 90% or more. This implies that when the thickness of the second anode exceeds 80 % or more of the carbon anode, the initial charge-discharge efficiency declines. Thus, Yamamoto et al. clearly disclose that the negative electrode active material is mainly composed of carbon (graphite) and Yamamoto et al. teach away from negative electrode active material that is mainly composed of Si.

In contrast thereto, the present invention discloses, for example, in Examples 1 to 12, a negative electrode including a mixture of an active material powder, a binder, and 20 wt. % carbon powder serving as a conductive material. The present invention does not include a carbon layer (graphite layer) as required by Yamamoto et al. The present invention provides a thin film electrode with a high capacity by the use of an active material mainly composed of Si.

A prior art reference must be considered in its entirety, i.e., as a **whole**, including portions that would lead away from the claimed invention. Such a teaching away from a claimed invention constitutes potent evidence of non-obviousness. See, for example, *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986); *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). As explained above, Yamamoto et al. teach a negative electrode material mainly composed of a carbon layer. Hence, when considered as a whole, Yamamoto et al. teach away from the claimed negative electrode active materials mainly composed of Si, or negative electrode active materials not including a carbon layer.

Fukui et al. does not cure the deficiencies of Yamamoto et al. Fukui et al. does not disclose the active material of the present invention having a surface layer composed of silicon oxide. Neither Yamamoto et al. nor Fukui et al. suggest the effect of the present invention in which a battery having high capacity, reduced internal resistance, excellent cycle characteristics, and high temperature storage characteristics is obtained. Evidence of the unexpected improvements in batteries using negative electrode active materials according to the claimed invention is found, for example, in Tables 3 and 8 of the present specification.

Obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Kotzab,* 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Jones,* 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Fine,* F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). There is no suggestion in Yamamoto et al. and Fukui et al. to substitute a negative electrode active material mainly composed of Si, as required by claims 1, 6,

and 9; or a negative electrode active material not including a carbon layer into the battery of Yamamoto et al., nor does common sense dictate such a modification. The PTO has not provided any evidence that there would be any obvious benefit in making such a modification of Yamamoto et al. *See KSR Int'l Co. v. Teleflex, Inc.*, 500 U.S. ____ (No. 04-1350, April 30, 2007) at 20.

The only teaching of the claimed negative electrode active material and non-aqueous electrolyte rechargeable batteries is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The dependent claims are allowable for at least the same reasons as the respective independent claims from which they depend, and further distinguish the claimed positive electrode current collector.

In view of the above remarks, Applicants submit that this case should be allowed and passed to issue. If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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